REMARKS

Applicant cancels without prejudice claims 1-14, and expressly reserves the right to file a Divisional Application further to prosecute claims drawn to the apparatus.

The above amendments to the specification and Abstract conform to the Examiner's suggestions.

Applicant respectfully requests the Examiner to reconsider and withdraw the rejections under 35 U.S.C. §§ 112, 102(b) and 103(a), insofar as these rejections may be applied to the new claims 15-25 which have been drafted specifically to overcome each of the Examiner's stated grounds in support of the rejection under 35 U.S.C. § 112, and also more clearly to define the invention relative to the disclosures of Collin '080, Heide '818 and Estelle '891.

In Applicant's view, the closest prior art is US 6 517 891 (**Estelle**). The preamble of new claim 15 proceeds from this prior art. The gist of the invention consists of the following process steps:

- the glue is kept ready in the region of the glue assembly 23 under relatively high glue pressure, specifically by the appropriate performance of the glue pump 34, and
- in accordance with the conveying speed of the packaging material or in consideration of other parameters, the respective glue pressure on the nozzle openings 25, 26 is determined directly in the region of the glue assembly 23 by a pressure control valve 37.

Accordingly, the glue pump 34 generates a more or less consistently high glue pressure in the glue line. By virtue of the pressure control valve acting directly in the region of the glue nozzles, it is possible to achieve a precise pressure setting without any time lag. Any change in

glue pressure necessitated by the characteristic movement of the packaging material can therefore be implemented within a technically appropriate period of time. A special feature of the invention is that, due to the appropriate programming of a central control unit, the glue pressure can be altered within a working stroke or glue cycle so that glue regions of differing layer thickness can be produced in the region of a blank or in the region of a section of the material web associated with a blank.

The pressure control valve is in principle a standard pressure control element that can be displaced by means of compressed air, so that a compressed air control unit 38 is provided as a further control element assigned to the pressure control valve. The compressed air control unit 38 for its part is connected to a central control unit.

A special feature of the invention to be noted is that by means of a data input device 54, in particular a PC, the glue pressure can be adjusted externally, specifically in accordance with the glue viscosity to produce a desired layer thickness of the glue regions.

An optimal solution is the storage of a predetermined data in a control program. This control program is programmed for certain input parameters, in particular the size of the blanks to be produced and, as a consequence, the resulting positioning of the glue regions. When a change-over is made in the packaging material to be provided with glue regions, a switch is also required to a different stored program as shown in the examples pursuant to Fig. 4 and Fig. 5 of the patent drawings. The change-over of packaging material represents a special problem in cigarette packaging technology ("brand change"). In this respect, the invention offers a special and efficient solution. The respective handling is also kept very up-to-date by furnishing a

central control unit 31 in conjunction with a data input device 54, in particular a PC. The processing of different materials, in particular the production and gluing of differently sized blanks, merely requires the entering of the product code number. The program then calls up the stored data relating to the positioning of the glue regions and their layer thickness.

The Office Action puts special importance on Collin '080. The Applicant cannot follow this view.

Collin also relates to the application of glue, specifically involving complex glue patterns on blanks for cigarette packs. In the specific example shown in Fig. 2, blanks for hinge-lid cigarette packs are provided with glue spots 8. They are provided by a glue assembly (valve) 14 with (four) correspondingly positioned glue nozzles 16. Arranged in a glue line to the glue valve 14 is a glue pump 12 and pressure regulator 13. However, Collin fails to specify whether this pressure regulator is adjustable and under what conditions any change, for example in pressure, is made. Because of the designation "pressure regulator", is can be assumed that the element designated with the number 13 in Collin merely has the task of maintaining constant pressure conditions.

Collin relates to another topic, namely to the exact positioning of the glue spots 8 on the blank. It proceeds from the consideration that different courses of movement of the blanks, namely a variable conveying speed, make an precise positioning of the glue spots difficult. To this end, a control unit 17 is used to compensate for the system-dependent delay in the application of glue. This involves the timing of the opening and closing of the respective glue nozzle 16. On this point, it is stated in the ABSTRACT:

The control unit ascertains a compensation interval for the inertia which is added to or subtracted from a system-dependent correction interval...

Collin thus relates specifically to movement components, namely to the compensation of differences in movement. The exclusive subject of the Collin specification is therefore the determination of the time of opening and closing of glue nozzles. This involves taking account of system-dependent variables. From this Collin derives a rule, as illustrated on page 4, left column, first paragraph (Abs. 0038). Collin makes no change of glue pressure in order to influence the glue spots.

Nor can Heide '818 be regarded as relevant prior art. Heide relates to the design of a glue valve for transferring glue to packaging material. This is a contact valve which is abutted by the packaging material in the region of the glue openings in order to apply the glue. In this respect there is some agreement with Applicant's invention, since the latter also operates with a glue assembly which has contact valves for glue application. No other features common to Heide can be seen, since Heide relates to a pressure-exerting element for the elastic abutment of the packaging material against the glue assembly. No statements are made concerning steps for influencing the glue patterns or glue areas.

In Applicant's opinion, the reference closest to the inventive process is Estelle '891 which relates to the application of glue on sheet-like carriers, including packaging blanks. The respective glue areas are to be altered, namely adjusted, in accordance with the conveying speed of a conveyor 30. To this end, Estelle also proposes that the glue pressure be adjusted in accordance with the change in conveying speed.

Departing from Applicant's claimed invention, however, Estelle proceeds by proposing that a drive motor 58 for a glue pump 52 should be subject to control signals in accordance with the conveying speed of the belt conveyor, i.e. concerning the drive velocity for the glue pump. Thus, changes in glue pressure are (exclusively) achieved by altering the delivery rate of the glue pump. Such a solution is in practice disadvantageous and unsuitable. For one, a change in glue pressure by altering the output of the glue pump cannot be carried out with the necessary precision. Another disadvantage is the considerable delay or inertia involved in making a necessary change in the glue pressure. In addition, due to the downstream line system, a change in the glue pump output can cause changes in the pressure buildup which cannot be compensated for by the pump output alone. Here it should be noted that in the illustration in Fig. 1 of Estelle the pump 52 is apparently arranged in the schematic drawing at a close distance to the glue assembly. However, due to technical reasons in machine construction, the glue assembly, on one hand, and the glue container with pump and motor are actually positioned at a greater distance from one another.

Only by means of the solution proposed by Applicant's claimed invention is it possible, regardless of the arrangement of the glue pump for the glue supply, to determine the desired glue pressure in the immediate vicinity of the glue assembly.

A further special feature of Applicant's invention is the storage of control programs for the gluing of blanks or material webs in the machine control unit and the possibility of calling up these programs when needed. Claims 23-25 are devoted to this particular aspect of the invention. Here a primary role is given to time-dependent velocity and pressure curves which are meant to

correlate to each other. By means of the data input device, namely the PC 54 in particular, a machine operator can set the material to be processed and the size of the blanks to be produced on an individual basis. Additional special factors can also be entered on an individual basis, for example, a different layer thickness for the glue areas and glue strips pursuant to claim 25, or changes with respect to glue viscosity. The gluing of successive blanks or of the continuous material web can then proceed automatically according to this program.

Applicant appreciates the Examiner's very detailed comments in support of the Examiner's rejections, and Applicant has responded in kind.

Applicant has explained in detail the deficiencies in the individual Collin, Heide and Estelle references and respectfully submits that the new claims 15-25 are neither anticipated by (readable on) Collin or the other two references nor rendered *prima facie* obvious by the teachings of the three references which, taken alone or in any combination, do not disclose, or even suggest, **all of the limitations** of each of the claims 15-25.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections under 35 U.S.C. §§ 112, 102(b) and 103(a), and to find the application to be in condition for allowance with claims 15-25; however, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to **call the undersigned attorney** to discuss any unresolved issues and to expedite the disposition of the application.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this application, and any required fee for such extension is to be charged to

Deposit Account No. 19-4880. The Commissioner is also authorized to charge any additional fees under 37 C.F.R. § 1.16 and/or § 1.17 necessary to keep this application pending in the Patent and Trademark Office or credit any overpayment to said Deposit Account No. 19-4880.

Respectfully submitted,

/John H. Mion/
John H. Mion
Registration No. 18,879

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
(202) 663-7901
WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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